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## A NEW VARIABLE STAR.

On the night of September 26, 1906, in the course of my survey for new double stars, I examined the star B. D. + 51°.3676 and found that it was fainter than 9.0 magnitude, though marked 7.8 in the B. D. As an examination of the published lists of variable stars failed to show this star, I called Mr. MADDRILL's attention to it, and he has secured the observations given below, which prove beyond doubt that it is a variable, almost certainly of long period. The star is given in two star catalogues, Radcliffe I (epoch 1846.9) and Harvard A. G. (epoch 1873.6), and is there rated as 7.0 and 7.5 magnitude respectively.

The star's position is:—

$$\begin{array}{rcl} 23^h & 32^m & 3^s.0; + 51^\circ \quad 27'.8 \quad (1855.0) \\ 23 & 34 & 11.55; + 51 \quad 42 \quad 31''.3 \quad (1900.0) \end{array}$$

R. G. AITKEN.

## PHOTOMETER OBSERVATIONS OF B. D. + 51°.3676.

Photometric observations of the star have been secured on several nights, at the suggestion of Dr. AITKEN. On each night the suspected variable star was compared with two stars, *a* and *b*, with the Rumford <sup>1</sup> wedge photometer.

To eliminate or check changes in the artificial star or in the transparency of the sky, the order of observation was in each case: *v a v b v b v a v*, three or four settings of the wedge—with one or two more, if discordant—being made on each star in turn. The same combination of shade-glasses was used each night. The Moon happened to be above the horizon during each observation.

The details of observation will be given later in a Lick Observatory *Bulletin*. It seems sufficient for the present to state that the conditions were not good in general but that concordant results were obtained, as shown in the following self-explanatory tables:—

## COMPARISON-STARs.

| Star.    | B. D.      | Adopted Mag.       | Authority.                          |
|----------|------------|--------------------|-------------------------------------|
| <i>a</i> | + 51°.3655 | 7 <sup>m</sup> .02 | Harvard Photometric Durchmusterung. |
| <i>b</i> | + 51°.3670 | 8 .88              | Mean of my nine measures.           |

\* See these *Publications*, No. 103; or the more extended description in Lick Observatory *Bulletin* No. 83.